

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

- 1 1. (Currently Amended) A method for modifying printing based upon direct on-
2 the-fly media characteristic parameters, comprising:
3 on-the-fly directly measuring at least one ~~print media~~ physical characteristic
4 parameter of the print media; and
5 ~~modifying~~ in real-time performing a print modification to printing by a print device
6 for printing on the measured print media in response to the at least one on-the-fly directly
7 measured ~~print media~~ physical characteristic parameter of the print media.
- 1 2. (Original) The method of claim 1 wherein the on-the-fly directly
2 measuring comprises scanning the media with a scanner.
- 1 3. (Original) The method of claim 2 wherein the scanner is a CCD camera.
- 1 4. (Original) The method of claim 2 wherein the scanner is used to
2 determine whether toner is properly adhering to the media.
- 1 5. (Original) The method of claim 4 wherein the scanner is a CCD camera.
- 1 6. (Currently Amended) The method of claim 1 ~~wherein the modifying~~
2 ~~comprises~~ further comprising applying a surface coating on the media before printing.

1 7. (Original) The method of claim 6 wherein the surface coating is applied
2 to only one side of the media.

1 8. (Original) The method of claim 6 wherein the surface coating is applied
2 to both sides of the media.

1 9. (Currently Amended) The method of claim 1 ~~wherein the modifying~~
2 comprises further comprising hot rolling the media before printing.

1 10. (Original) The method of claim 9 wherein the hot rolling comprises
2 flattening rough fibers and drying the media.

1 11. (Original) The method of claim 9 wherein the hot rolling is implemented
2 after the application of a coating to cure the coating.

1 12. (Original) The method of claim 9 wherein the hot rolling is implemented
2 prior to the application of a coating to lower the moisture content of the media, the lowering
3 of the moisture content improving coating coverage and adhesion.

1 13. (Original) The method of claim 1 wherein the on-the-fly directly
2 measuring further comprises measuring a quality of print for the media.

1 14. (Original) The method of claim 13 wherein the quality of print comprises
2 print marking adhesion.

1 15. (Original) The method of claim 14 wherein the print marking is toner.

1 16. (Original) The method of claim 13 wherein measuring comprises
2 detecting the quality of print using at least one scanner.

1 17. (Original) The method of claim 16 wherein the scanner is a CCD camera.

1 18. (Original) The method of claim 14 further comprising applying a coating
2 to promote adhesion when the print marking adhesion is poor.

1 19. (Currently Amended) The method of claim 1 wherein the ~~modifying~~
2 performing a print modification further comprises adjusting halftone screens for measured
3 media surface and absorption characteristics.

1 20. (Original) The method of claim 19 wherein the halftone screens are
2 adjusted for spatially varying dot gain.

1 21. (Original) The method of claim 19 wherein the halftone screens are
2 adjusted for excessive dot gain.

1 22. (Original) The method of claim 19 wherein the halftone screens are
2 adjusted to prevent bleed through for thin media.

1 23. (Currently Amended) The method of claim 1 wherein the measuring
2 comprises detecting print quality, ~~the method further comprising~~ and the performing a print
3 modification further comprises adjusting toner concentration when the print quality is poor.

1 24. (Currently Amended) The method of claim 1 wherein the measuring further
2 comprises measuring mottle effects in the printed media.

1 25. (Original) The method of claim 24 wherein a scanning element is used to
2 detect the mottle effects.

1 26. (Original) The method of claim 25 wherein the scanner comprises an
2 array of scanning elements placed early in the media path.

1 27. (Original) The method of claim 26 wherein the array is a one dimensional
2 array.

1 28. (Original) The method of claim 26 wherein the array is a two dimensional
2 array.

1 29. (Original) The method of claim 1 wherein the measuring further
2 comprises illuminating the media from behind using a bottom light source and collecting a
3 resulting transmitted image using scanning elements.

1 30. (Original) The method of claim 1 wherein the measuring further
2 comprises reflecting light off of the media using a top light source.

1 31. (Original) The method of claim 1 wherein the measuring further
2 comprises illuminating the media from behind using a bottom light source and collecting a
3 resulting transmitted image using scanning elements and reflecting light off of the media
4 using a top light source.

1 32. (Currently Amended) The method of claim 1 wherein the ~~modifying~~
2 performing a print modification comprises adjusting a print algorithm.

1 33. (Original) The method of claim 32 where the print algorithm is adjusted
2 to compensate for mottle in the media.

1 34. (Original) The method of claim 32 wherein the detection of mottle in the
2 media drives a local coating system for selectively applying a coating on the media.

1 35. (Original) The method of claim 1 wherein the print device is a printer.

1 36. (Original) The method of claim 1 wherein the print device is a digital
2 copier.

1 37. (Currently Amended) A print device, comprising:
2 a marker system for rendering a page layout on a medium; and
3 a processing system, coupled to the marker system, the processing system directly
4 measuring on-the-fly at least one ~~print-media~~ physical characteristic parameter of the print
5 media on-the-fly and ~~modifying~~ in real-time performing a print modification to printing by
6 the print device for printing on the measured print media in response to the at least one on-
7 the-fly directly measured ~~print-media~~ physical characteristic parameter of the print media.

1 38. (Original) The print device of claim 37 wherein at least one scanner
2 provides measurements of the at least one print media characteristic parameter.

1 39. (Original) The print device of claim 38 wherein the scanner is used to
2 determine whether toner is properly adhering to the media.

1 40. (Currently Amended) The print device of claim 37 further comprising a
2 coating applicator coupled to the processor, the processor using the coating application to
3 apply for applying a surface coating on the media before printing.

1 41. (Original) The print device of claim 40 wherein the coating applicator
2 applies a coating to only one side of the media.

1 42. (Original) The print device of claim 40 wherein the coating applicator
2 applies a coating to both sides of the media.

1 43. (Currently Amended) The print device of claim 37 further comprising hot
2 rollers, the processor using the hot rollers to hot roll ~~for hot rolling~~ the media before printing.

1 44. (Original) The print device of claim 43 wherein the hot rollers flatten
2 rough fibers and dry the media.

1 45. (Original) The print device of claim 43 wherein the hot rollers are used
2 for hot rolling the media after the application of a coating to cure the coating.

1 46. (Original) The print device of claim 43 wherein the hot rollers are used
2 for hot rolling prior to the application of a coating to lower the moisture content of the media,
3 the lowering of the moisture content improving coating coverage and adhesion.

1 47. (Original) The print device of claim 43 further comprising at least one
2 scanner for measuring a quality of print for the media.

1 48. (Original) The print device of claim 47 wherein the quality of print
2 comprises print marking adhesion.

1 49. (Original) The print device of claim 48 wherein the print marking is toner.

1 50. (Currently Amended) The print device of claim 47 further comprising a
2 coating applicator, the processor using the coating applicator to apply ~~for applying~~ a coating
3 to promote adhesion when the print marking adhesion is poor.

1 51. (Original) The print device of claim 37 wherein the marker adjusts
2 halftone screens for media surface and absorption characteristics.

1 52. (Original) The print device of claim 37 wherein the marker adjusts
2 halftone screens for spatially varying dot gain.

1 53. (Original) The print device of claim 37 wherein the marker adjusts
2 halftone screens for excessive dot gain.

1 54. (Original) The print device of claim 37 wherein the marker adjusts
2 halftone screens to prevent bleed through for thin media.

1 55. (Currently Amended) The print device of claim 37 further comprising at least
2 one scanner for detecting a print quality, wherein the processor adjusts a toner concentration
3 ~~is adjusted~~ when the print quality is poor.

1 56. (Original) The print device of claim 37 further comprising a scanner to
2 detect mottle effects.

1 57. (Original) The print device of claim 56 wherein the scanner comprises an
2 array of scanning elements placed early in the media path.

1 58. (Original) The print device of claim 57 wherein the array is a one
2 dimensional array.

1 59. (Original) The print device of claim 57 wherein the array is a two
2 dimensional array.

1 60. (Original) The print device of claim 37 further comprising a bottom light
2 source for illuminating the media from behind and a scanner for collecting a resulting
3 transmitted image.

1 61. (Original) The print device of claim 37 further comprises a top light
2 source for reflecting light off of the media.

1 62. (Original) The print device of claim 37 further comprising a bottom light
2 source for illuminating the media from behind and scanner for collecting a resulting
3 transmitted image and a top light source for reflecting light off of the media.

1 63. (Original) The print device of claim 37 wherein scanner provides the
2 processor a control signal to adjust a print quality measurement algorithm.

1 64. (Original) The print device of claim 63 where the print algorithm is
2 adjusted to compensate for mottle in the media.

1 65. (Original) The print device of claim 63 wherein the processor upon
2 receiving a signal indicating mottle in the media drives a local coating system for selectively
3 applying a coating on the media.

1 66. (Original) The print device of claim 37 wherein the print device is a
2 printer.

1 67. (Original) The print device of claim 37 wherein the print device is a
2 digital copier.

1 68. (Currently Amended) An article of manufacture comprising a program
2 storage medium readable by a computer, the medium tangibly embodying one or more
3 programs of instructions executable by the computer to perform a method for modifying
4 printing based upon direct on-the-fly media characteristic parameters, the method
5 comprising:

6 on-the-fly directly measuring at least one ~~print-media~~ physical characteristic
7 parameter of the print media; and

8 ~~modifying~~ in real-time performing a print modification to a print device for printing
9 on the measured print media in response to the on-the-fly directly measured ~~print-media~~
10 physical characteristic ~~parameters~~ parameter of the print media.